



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,286	07/09/2001	Hal Joseph Burch	2-9	7595
7590	07/13/2007		EXAMINER	
Lucent Technologies Inc. Docket Administrator (Room 3J-219) 101 Crawfords Corner Road Holmdel, NJ 07733			HOFFMAN, BRANDON S	
			ART UNIT	PAPER NUMBER
			2136	
			MAIL DATE	DELIVERY MODE
			07/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	09/901,286	BURCH ET AL.
	Examiner	Art Unit
	Brandon S. Hoffman	2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 October 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-30 are pending in this office action.
2. Applicant's arguments, filed October 10, 2006, have been fully considered but they are not persuasive.

Rejections

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross (U.S. Patent No. 7,032,020) in view of Duffield et al. (U.S. Patent No. 6,873,600).

Regarding claims 1 and 16, Gross discloses a method/apparatus for tracing a sequence of packets to a potential source thereof within a communications network, the sequence of packets being received at a target host in said communications network at a received packet rate, the method comprising the steps of:

- Identifying a plurality of network elements comprised in said communications network (fig. 3, ref. num SN1-SN8 and A-K);

- Applying a burst load to a selected one of said identified network elements in said communications network (col. 5, lines 44-51);
- Measuring a change in said received packet rate in response to said application of said burst load to said selected network element (col. 7, lines 48-51); and
- Repeating steps 2-4 on other selected network elements a plural number of times to generate a path leading from said target host to said potential source based on the selected network elements which have been included in said potential path (col. 7, lines 31-51).

Gross does not teach including said selected network element in a potential path if said change in said received packet rate fails to meet a predetermined criterion.

Duffield et al. teaches including said selected network element in a potential path if said change in said received packet rate fails to meet a predetermined criterion (fig. 1).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine including said selected network element in a potential path if said change in said received packet rate fails to meet a predetermined criterion, as taught by Duffield et al., with the method/apparatus of Gross. It would have been obvious for such modifications because measuring a potential path for a DoS attack

allows direct inference of traffic flows traversing a certain subset of the network (see abstract of Duffield et al.).

Regarding claims 2 and 17, Gross as modified by Duffield et al. discloses wherein said communications network comprises the Internet (see col. 3, lines 22-25 of Gross).

Regarding claims 3 and 18, Gross as modified by Duffield et al. discloses wherein each of said selected network elements comprises a network link (see fig. 3, ref. num 90 of Gross).

Regarding claims 4 and 19, Gross as modified by Duffield et al. discloses wherein said step of applying a burst load to said network link comprises transmitting packets to a sub network of said communications network to initiate a responsive flow of packets through said network link (see col. 6, lines 20-29 of Gross).

Regarding claim 5 and 20, Gross as modified by Duffield et al. discloses wherein said transmitted packets are spoofed from an end of said network link closest to said target host (see col. 21, lines 49-53 of Duffield et al.).

Regarding claims 6 and 21, Gross as modified by Duffield et al. discloses wherein said transmitted packets comprise UDP chargen requests (see col. 5, lines 21-23 of Gross).

Regarding claims 7 and 22, Gross as modified by Duffield et al. discloses wherein each of said selected network elements comprises a network router (see col. 3, lines 28-30 of Gross).

Regarding claims 8 and 23, Gross as modified by Duffield et al. discloses further comprising the step of generating a map comprising routes from said target host to a plurality of sub networks of said communications network (see fig. 3 of Duffield et al.).

Regarding claims 9 and 24, Gross as modified by Duffield et al. discloses further comprising the step of eliminating said selected network element from consideration as said potential source of said sequence of packets when said change in said received packet rate meets the predetermined criterion (see col. 17, lines 43-52 of Duffield et al.).

Regarding claims 10 and 25, Gross as modified by Duffield et al. discloses wherein said predetermined criterion comprises a determination of whether said change in said received packet rate is less than a predetermined threshold (see col. 22, lines 38-45 of Duffield et al.).

Regarding claims 11 and 26, Gross as modified by Duffield et al. discloses wherein said step of eliminating said selected network element from consideration also eliminates from consideration one or more sub networks of said communications network which are connected to said selected network element (see col. 17, lines 43-52 of Duffield et al.).

Regarding claims 12 and 27, Gross as modified by Duffield et al. discloses wherein said sequence of packets comprises a Denial-of-Service attack on said target host (see col. 21, lines 49-61 of Duffield et al.).

Regarding claims 13 and 28, Gross as modified by Duffield et al. discloses wherein said steps of applying said burst load, measuring said changes in said received packet rate, and determining said potential source of said sequence of packets, are executed under the control of an automated algorithm (see col. 8, lines 23-25 of Gross, a program).

Regarding claims 14 and 29, Gross as modified by Duffield et al. discloses wherein said steps of applying said burst load and determining said potential source of said sequence of packets, are executed under the at least partial control of a human operator (see col. 8, lines 23-25 of Gross, a user).

Regarding claims 15 and 30, Gross as modified by Duffield et al. discloses further comprising the step of displaying information, said information including data representative of said measured changes in said received packet rate, to said human operator, for use by said human operator in exercising said at least partial control (see col. 8, lines 23-25 of Gross, a user).

Response to Arguments

5. Applicant's affidavit, filed October 10, 2006, showing conception and reduction to practice on December 8, 2000, is deficient in the following ways:

- a. Applicant has properly shown conception of invention by the cited document, Tracing Anonymous Packets to Their Approximate Source.
- b. Applicant has also shown a reduction to practice, with the above-mentioned document, by showing results that took place.
- c. Applicant has not, however, shown any form of diligence from the date of publication of the document, December 8, 2000, to the actual filing of the application in the United States, July 9, 2001. There is raised a question as to what happened with the application during the 7 months between the publication date and the U.S. filing date.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2136

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon S. Hoffman whose telephone number is 571-272-3863. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser G. Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brandon Hoffman/

BH

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100


7,8,07